Kreativ Menu

Manuals

WelchAllyn®

Kreativ™

Multi-Operatory
Air Abrasion Accessory

Instructions for Use

Please read this manual thoroughly prior to first use

Copyright Notice:
Copyright © 1999, Kreativ, Inc. All rights reserved. No part of this manual may be reproduced without written permission from Kreativ, Inc.

Manufactured by:

Kreativ, Inc. (USA)
9025 Balboa Avenue
San Diego, CA 92123

European Regulatory Manager

Welch Allyn LTD.
Navan, Co. Meath
Republic of Ireland
Ph: 353-46-79060

TABLE OF CONTENTS

1. INTRODUCTION AND GENERAL INFORMATION 3

INTRODUCTION 3
PURPOSE OF THIS MANUAL 3
GENERAL INFORMATION AND FEATURES 4
FUNCTIONAL DESCRIPTION 5
SPECIFICATIONS 6

2. SAFETY 7

WARNINGS 7
CAUTIONS 7
PRODUCT SAFETY LABELING 8
RECYCLING INSTRUCTIONS 8

3. SYSTEM UNPACKING, SETUP, AND OPERATIONAL VERIFICATION 9

UNPACKING 9
SET-UP 9
OPERATIONAL VERIFICATION 11
(NOTE: THE MULTI-OPERATORY ACCESSORY MUST ALWAYS BE POWERED FIRST.) 11

4. OPERATING INSTRUCTIONS 13

OPERATION 13

5. PREVENTIVE MAINTENANCE AND TROUBLESHOOTING 14

PREVENTIVE MAINTENANCE 14
PERIODIC MAINTENANCE 15
TROUBLESHOOTING 15
MULTI-OPERATORY PARTS/ACCESSORIES 17
CUSTOMER REPLACEABLE COMPONENTS 17
OPTIONAL ACCESSORY KIT 17
PNEUMATIC FOOTSWITCH 18
MICRODENTISTRY PRODUCTS 18

6. RETURNS, ADJUSTMENTS AND LIMITED WARRANTY 19

RETURNS AND ADJUSTMENTS 19
MULTI-OPERATORY ACCESSORY LIMITED WARRANTY 19
STORAGE AND SHIPMENT 20

Chapter

1

1. Introduction and General Information

Introduction

The Kreativ Multi-Operatory Air Abrasion Accessory is an accessory extending the use of the Mach 5.0 and the Mach 5.0 Plus (Mach 5/5+) family of air abrasion systems into two dental operatories separated by distances of up to 32 feet, while maintaining the remote control capabilities of the Mach 5/5+ system in both operatories. Simultaneous operation in both operatories is not supported.

Every attempt has been made to make this manual a comprehensive overview of the Kreativ Multi-Operatory Accessory. **It is very important that you read this manual thoroughly before you attempt to set up or use the equipment**.

Purpose of this Manual

This manual should be thoroughly studied before installing and using the equipment. Please call your nearest authorized Welch Allyn / Kreativ service representative if you need additional information regarding installation, operation, or service of the instrument.

Chapter One provides an overview of the system, and covers the use of the manual, features of the Multi-Operatory Accessory, specifications, and other general information.

Chapter Two is a listing of all product Warnings and Cautions. Warnings relate to issues that could be harmful to either the user or the patient, while Cautions cover issues that could unnecessarily damage the equipment. **Please pay special attention to this chapter**.

Chapter Three covers the initial unpacking, set-up, and operational verification of the unit. This section should also be referred to whenever the unit is moved from one location to another or stored for extended periods of time.

Chapter Four is an operational description of the Kreativ Multi-Operatory accessory.

Chapter Five provides preventive maintenance and troubleshooting procedures. Also included is a replacement part and accessory list for re-ordering your supplies.

Chapter Six is the warranty policy for the Kreativ Multi-Operatory accessory.

General Information and Features

The Kreativ Multi-Operatory Accessory offers the capability of extending the use of a Mach 5/5+ Air Abrasion system into two dental operatories without the additional cost of a second air abrasion system, or the requirement of moving the air abrasion unit between the two operatories. The air abrasion system can be located up to 16 feet from either operatory.

The Multi-Operatory Accessory uses the same air controlling technology as the Mach 5/5+ to reliably route abrasive/air to either of the selected operatories. The unit automatically senses when a handpiece is removed from its cradle, and activates the related footswitch. The other operatory is locked out from use or input whenever the handpiece from the operatory in use is uncradled.

Other features of the Kreativ Multi-Operatory Accessory include:

- Second Remote and footswitch is provided for the second operatory
- Automatic blanking of idle remote display
- Convenient access to pinch tubes for periodic maintenance
- Direct mounting to front of Mach 5/5+ system
- Optional rear-mounting capability
- Ability to bypass remote when handpiece is removed for sterilization
- Optional dental chair integration kit to eliminate multiple footswitches

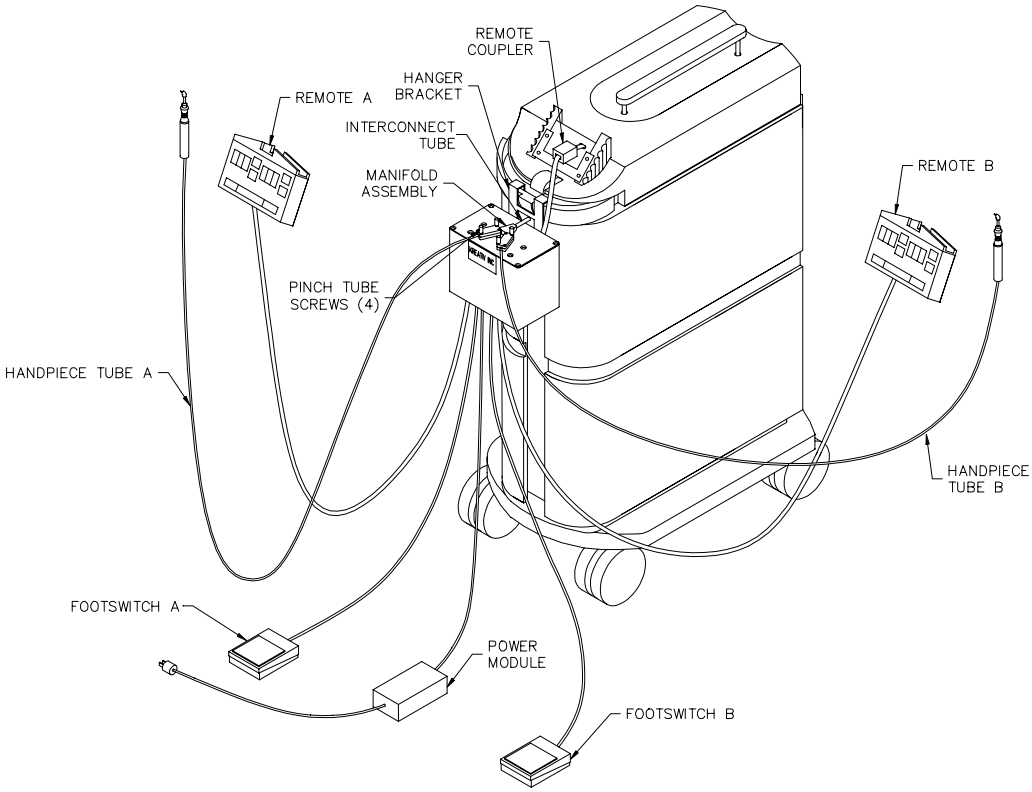

Figure 1
Installation Drawing (front-mount position)

Functional Description

Pinch Tube Screws - Access is provided to the pinch tubes by removing the pinch tube screws, then removing the pinch tube top block.

Hanger Bracket - Mounts over the accessory drawer in the Mach 5/5+ to position the Multi-Operatory unit in front of the Mach 5/5+.

Footswitch - Connects into the bottom of the Multi-Operatory Accessory and runs to each of the operatories to initiate air/powder flow.

Remote - Connects to the back of the Multi-Operatory Accessory and runs to each of the operatories to control the Mach 5/5+ when active.

Handpiece Tube - Connected to the output end of each pinch tube, and routes to each operatory, provides air/powder to the handpiece (handpieces provided with the Mach 5/5+ accessory kit).

Manifold Assy - Provides air/abrasive to both pinch tubes when connected with its interconnect tube.

Power Module - Provides power to the Multi-Operatory unit.

Interconnect Tube - Tubing connecting the Multi-Operatory unit pinch tube manifold with the Mach 5/5+ abrasive air outlet fitting.

Remote Coupler - Connects the Multi-Operatory Accessory to the Mach 5/5+ remote control cable.

Specifications

For further technical information, please contact your sales representative or the Kreativ Service Center.

Power Input	100-240 V~, 50/60 Hz, 0.75-0.35 A		
Weight	5.5 lbs. (2.5 kg)		
Dimensions	6.3”H x 4.1”L x 6.5”W (w/o mtg. bracket) (16 x 10.4 x 16.5 cm)		
Environmental Limitations	<u>Operating</u>	<u>Storage/Transport</u>	
Temperature	+41 °F to 104 °F (+10 °C to 40 °C)	+14 °F to 158 °F (-10 °C to 70 °C)	
Humidity	10 % to 90 % non-condensing		
Pressure	7.3 psia to 15.4 psia (50 kPa to 106 kPa)		
Maximum tubing length between operatories	+/- 16 ft from Mach 5/5+, 32 ft total		

Chapter

2

2. Safety

Warnings

WARNING: Do not attempt to internally service the Multi-Operatory unit beyond those items described in the maintenance section. Failure to heed this warning may result in equipment damage and/or personal injury.

WARNING: Make sure that the Kreativ Multi-Operatory unit is connected to a properly grounded electrical outlet.

WARNING: Periodic inspection and/or replacement of the pinch-tubes is required at the recommended intervals. Failure of a pinch-tube could cause damage to the Multi-Operatory unit, rendering it inoperable. See section under **Periodic Maintenance** for recommended intervals.

Cautions

CAUTION: Do not substitute non-Kreativ, Inc., materials or accessories. Use of materials or accessories supplied by other manufacturers may result in damage to the unit and will void the factory warranty.

CAUTION: Sound clinical judgment and common sense are essential to the successful use of the unit in order to provide safe and efficient patient care.

CAUTION: Always follow "standard of care" protocols in performing dental operative procedures.

CAUTION: If the unit is dropped, unplug and safety check it very thoroughly for loose or damaged parts before using it again.

Product Safety Labeling

Type B equipment (defines the degree of protection against electrical shock)

Refer to Operator's Manual

~ Alternating Current (AC)

Recycling Instructions

Device:

- All covers and housings should be recycled as steel or aluminum.
- Plastic parts should be removed from the metal pads before recycling (e.g., power inlet, footswitch connector, main switch, etc.)
- All printed circuit boards should be recycled as electronic devices.

Accessories:

- All spare parts should be recycled according to the instructions above.
- Products that have been in contact with the patient should be cleaned and sterilized.

Packaging:

- The carton, all other plastics, and inserts should be recycled (cardboard, foam, polyethylene).

ALL RECYCLING MUST BE IN COMPLIANCE WITH THE RELEVANT NATIONAL LAWS. GOVERNMENT AUTHORIZED RECYCLING CENTERS MUST BE USED.

ENVIRONMENTALLY RELEVANT MATERIALS:

COMPONENTS	LIST OF MATERIALS
Enclosure and all brackets	Steel, Aluminum
Printed Circuit Boards	Epoxy, FR4

THERE ARE NO HAZARDOUS MATERIALS PRESENT IN THIS PRODUCT.

Chapter

3

3. System Unpacking, Setup, and Operational Verification

Unpacking

Carefully remove the unit from the shipping container and inspect for shipping damage. Should any sign of shipping damage be evident, please call your nearest authorized Welch Allyn / Kreativ service representative immediately. Keep all shipping containers in the unlikely event that the unit needs to be returned for repair.

Set-up

1. Prior to setting up and installing the Multi-Operatory Accessory, verify your Mach 5/5+ system is operating properly.

2. Verify receipt of all appropriate accessories using the checklist enclosed with your Multi-Operatory Accessory.

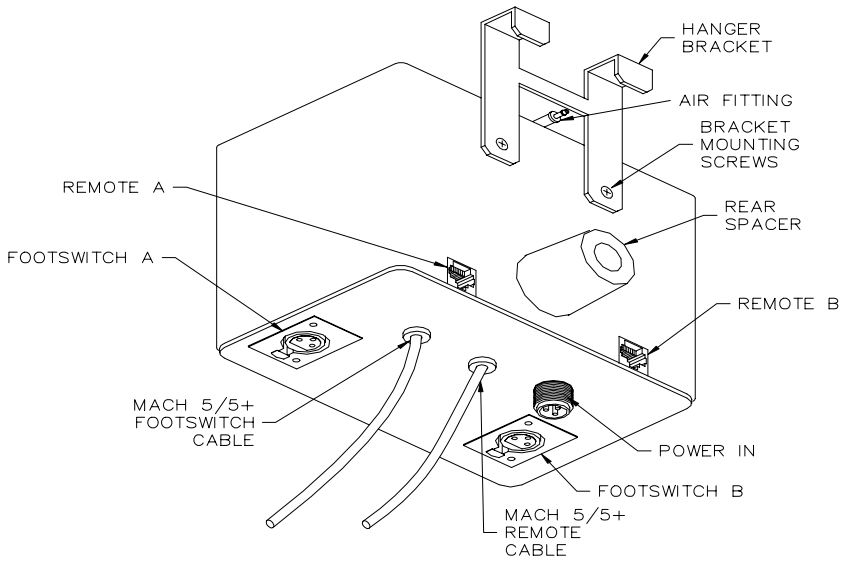

Figure 2

3. Install the hanger bracket onto the rear of the Multi-Operatory Accessory using the Phillips head screws provided in the accessory kit, as shown in Figure 2.

4. Ensure the Mach 5/5+ is turned off. Remove the Mach 5/5+ remote from its mount if it is mounted on the air abrasion unit, and unplug the inter-connecting cable.

5. Disconnect the existing footswitch from the Mach 5/5+.

6. Install the connectors for the existing Mach 5/5+ footswitch and remote onto the Multi-Operatory Accessory, grouping the connectors on either side (but the same side) as shown in Figure 2. Use the 20 foot cables supplied with the Multi-Operatory Accessory for both remotes.

   NOTE: The footswitch supplied with the Mach 5/5+ must be installed in the operatory which has the shortest run between the operatory and the Mach 5/5+ system, a total of up to 12 feet (limited by the footswitch). If a longer footswitch cable is needed, refer to section 5 for optional parts and accessories.

7. Install the connectors for the second operatory footswitch and remote onto the Multi-Operatory unit, grouping the connectors on the remaining side as shown in Figure 2.

8. Install the power cable from the power supply unit onto the power supply connector located on the bottom of the Multi-Operatory unit.

9. Install the 1 ½ inch long interconnect tube by screwing the brass fitting into the air manifold located on the top of the Multi-Operatory unit. Ensure this fitting is air tight. Hand tightening should be adequate.

10. Pull the accessory tray located at the top of the Mach 5/5+ unit out several inches, and place the hanger bracket, with the Multi-Operatory unit, over the front of the accessory tray. Gently move the unit back with the accessory tray, until the protruding male air fitting is aligned with the female air fitting located on the front of the Mach 5/5+. Push the unit back until the air fitting locks securely into the Mach 5/5+ system. If there is any difficulty, ensure all traces of abrasive powder are removed from the Mach 5/5+ air fitting by blowing the powder from the connector with compressed air.

11. Remove the thumbscrews (4) from the black pinch tube covers located on the top of the unit, and remove the black covers. Install a pinch tube over each of the fittings on the ends of the provided 20 ft long air/abrasive

handpiece tubes. Install the resulting pinch tube/abrasive tube assembly into each of the two connector fittings on the manifold assembly.

12. Install the pinch tubes into their respective pinch tube blocks, and replace the black covers and thumbscrews, making sure the tube fittings are captured properly by the pinch tube top blocks.

    CAUTION: Ensure the thumbscrews are tight and the covers pulled down completely. Failure to install these components properly could result in air/abrasive leaks in the unused handpiece.

13. Route the air hoses with the footswitch and remote wiring going to each operatory from either side of the Multi-Operatory unit. The cabling can be bundled together and tied with the cable ties provided in the accessory kit.

14. Route the footswitch cable extending from the bottom of the Multi-Operatory unit under the Mach 5/5+, and connect to the footswitch connector input of the Mach 5/5+.

15. Route the remote RJ45 cable extending from the bottom of the Multi-Operatory unit between the unit and the Mach 5/5+, and connect it to the remote connector of the Mach 5/5+ using the coupler supplied in the accessory kit.

16. Connect the power cord from the Multi-Operatory unit power supply to an appropriate grounded power outlet.

17. For optional kits and accessories, refer to the individual instruction sheets supplied with each optional accessory.

Operational Verification

(Note: The Multi-Operatory Accessory must always be powered first.)

1. Once the unit has been set up, power up the Multi-Operatory Accessory.

2. Turn the Mach 5/5+ on.

3. Ensure both handpieces are installed and cradled by the respective handpiece holders on each remote. The remotes should both have their displays illuminated, indicating the system is in “Standby”.

4. Depress the “Air” switch on one of the remotes. The status indicator should go from “Standby” to “On”, indicating the same status on both remotes. The Mach 5/5+ system will be pressurized at this time.

5. Depress the Beam Intensity up or down arrow keys to select the desired operating Beam Intensity.

6. Depress the Particle Energy up or down arrow keys to select the desired operating Particle Energy.

7. Select the desired Pulse mode by depressing the "Mode" button.

8. Ensure there are no error indications displayed at the bottom of the remote unit. If there are indications, service the Mach 5/5+ appropriately.

9. Remove a handpiece from its cradle, and verify the other operatory remote display goes blank, and indicates it is in Standby mode.

   CAUTION: Ensure the activated handpiece is aimed safely away from anything which may be damaged by high speed abrasive powder flow propelled by high pressure air. Suitable test targets are a Klean Air II, high volume suction device or a damp gauze or cloth.

10. Depress the associated footswitch briefly, and observe abrasive powder flowing from the handpiece.

11. Check (or have an associate check) the second operatory handpiece to ensure there is no powder or air flow from the unused handpiece during operation of the first operatory.

12. Replace the handpiece.

13. Repeat the above checks for the second operatory.

Chapter

4

4. Operating Instructions

Operation

Once installed, the Kreativ Multi-Operatory Accessory should have no impact on the normal use of the associated Mach 5/5+ air abrasion system, except that control of the Mach 5/5+ systems is now provided from two operatories separated by up to 32 feet. However, there are several safety features built into the Accessory with which the operator should become familiar.

1. **Operatory Activation:** To activate an operatory, remove the handpiece from the cradle in that operatory. This will activate the footswitch in that operatory.
2. **Inactive Operatory:** When an operatory is activated, the second operatory remote will be blanked, and the footswitch in that operatory will be inactivated. No control over the Mach 5/5+ will be possible from the inactive operatory while the handpiece in the active operatory is uncradled.
3. **Operatory Release:** To release control from the active operatory, the handpiece in that operatory must be re-inserted into its handpiece holder.
4. **Operatory Bypass:** An operatory may be bypassed (made inoperative) with the handpiece out of its cradle by manually depressing the switch in the handpiece holder twice within one second. This action will inactivate the operatory as if the handpiece were in its holder, allowing removal of the handpiece for autoclaving. The second operatory can then operate normally.
5. **Operatory Reactivation:** To reactivate a bypassed operatory, depress the handpiece switch one time, or insert and remove the handpiece from its holder.
6. **Power Sequencing:** To ensure proper signal communication between the Multi-Operatory Accessory and the Mach 5/5+**, always ensure power to the Multi-Operatory Accessory is applied first**, then the Mach 5/5+ is turned on. Power to the Multi-Operatory Accessory is applied as soon as it is plugged in, since there is no power switch provided. If difficulty is encountered during start-up, remove power from both the Multi-Operatory Accessory and Mach 5/5+, then restore power in the proper sequence.

Chapter

5

5. Preventive Maintenance and Troubleshooting

Preventive Maintenance

WARNING: Always disconnect power from the Multi-Operatory Accessory and Mach 5/5+ prior to performing any maintenance.

The Kreativ Multi-Operatory Accessory has been designed to be trouble-free and easy to use. Standard cleaning procedures will keep your accessory looking new for years to come. Periodic inspection of the power supply and cord is prudent. If any of these parts appear worn, contact your authorized Welch Allyn / Kreativ service representative for replacement parts.

To replace the pinch tubes:

1. Turn off the Mach 5/5+.
2. Disconnect power from the Multi-Operatory Accessory by either unplugging the power supply from the main power source or disconnecting the power plug from the bottom of the Multi-Operatory Accessory.
3. Remove the 4 thumbscrews securing the two pinch tubes on the top of the Multi-Operatory Accessory and remove the black pinch tube top blocks.
4. Pulling up on the manifold, remove and discard the pinch tubes by pulling from the manifold fitting. Remove the air hose fitting from the other end of the pinch tubes by pulling the pinch tube from the fitting.
5. Install new pinch tubes by inserting over the fittings on the manifold and air tubes.
6. Replace the assembled pinch tubes into the grooves in the bottom pinch tube block, ensuring proper location of the fitting flanges in the grooves provided in the pinch tube block bottoms.
7. Place the pinch tube top blocks over the pinch tube assemblies, and push together, ensuring proper alignment of all the components.

8. Replace the 4 knurled thumb screws through the pinch tube blocks and tighten until the pinch tube top blocks are pulled down and meet the bottom pinch tube blocks under the thumb screws.

   CAUTION: When installing new pinch tubes, ensure the pinch tube top blocks are pulled down completely under the installation screws. Failure to tighten these screws completely could result in improper blocking of powder, resulting in air/abrasive release from the inactive handpiece.

9. Reconnect power to the Multi-Operatory Accessory, then power on the Mach 5/5+.

10. Resume normal operation.

Periodic Maintenance

Your Multi-Operatory Accessory requires minimal maintenance. However, Kreativ recommends that pinch tubes and tubing are checked for wear whenever maintenance is performed on your Mach 5/5+ system. It is also recommended that both pinch tubes be replaced as a part of a preventive maintenance program at least once every three (3) months.

WARNING: Failure to periodically replace the pinch tubes on the recommended schedule could result in permanent damage to the working components of the Multi-Operatory Accessory, rendering it unusable.

Troubleshooting

The only user-serviceable parts in the Kreativ Multi-Operatory Accessory are the pinch tubes. The following table is intended to assist in communicating with your Welch Allyn / Kreativ service representative.

CONDITION:	THINGS TO DO:
Displays do not illuminate	• Check that Multi-operatory Accessory power cord is plugged in. • Check power supply connector is plugged into the Multi-Operatory Accessory. • Ensure that all interconnecting cables are connected per the installation instructions.
Cannot get Mach 5/5+ from “Standby”into “On” condition	Recycle power turn-on sequence: Turn Mach 5/5+ off, disconnect power from Multi-Operatory unit. Reconnect Multi-Operatory unit, then turn on

	Mach 5/5+.
Footswitch does not activate abrasive air	• Verify footswitch is plugged into the same side of the Multi-Operatory unit as the remote and air hose in that operatory. • Ensure Footswitch connector from Multi-Operatory unit is plugged into the back of the Mach 5/5+ • Ensure handpiece is removed from cradle. • Ensure Mach 5/5+ is not in Standby mode. • Verify second operatory handpiece is in its cradle or operatory is bypassed.
Abrasive/air flows from unused handpiece	• Pinch tube block thumbscrews are not tight. Retighten thumbscrews. • Pinch tubes/fittings not properly seated. Remove thumbscrews and check pinch tube assemblies, fittings and pinch tubes. • Damage to pinch tube assembly due to failed pinch tube. Replace pinch tube and/or damaged parts. • Call your nearest authorized Welch Allyn / Kreativ service representative.
Remote display not illuminated	• Ensure remote cable is plugged in. • Ensure power is connected to unit. • Ensure remote cable is plugged in from the Multi-Operatory unit to the Mach 5/5+ remote cable connector coupler. • Handpiece is out of other holder, or other operatory not bypassed. Insert inactive handpiece in holder or bypass inactive operatory.
Remote displays “OFF”	• Mach 5/5+ is turned off. Turn unit on.

Multi-Operatory Parts/Accessories

Description	Reorder No.
Footswitch Assembly, 20 ft	180080
Remote Cable Assembly, 20 ft. (Qty 2)	180081
Remote Assembly	170024
Handpiece tubing assembly, 16 ft (Qty 2)	170194
Bracket, Multi-Operatory Hanger	210221
Air Inlet Tube Assembly, 1½ in.	170193
12 V 2.75 A Power Supply	590005
Power Cord	600105
Remote coupler	600080

Customer Replaceable Components

Description	Reorder No.
Remote Cable Assembly, 20 ft.	180081
Handpiece tubing assembly, 16 ft	170194
Air Inlet Tube Assembly, 1½ in.	170193
Manifold Assembly	170190
Pinch Tube (pack of 8)	K01-00325-1
Remote coupler	600080

Optional Accessory Kit

An optional accessory kit is available which contains all the materials to relocate the Multi-Operatory Accessory from the front of the Mach 5/5+. This kit allows the Multi-Operatory Accessory to be mounted up to 42 inches away from the front of the Mach 5/5+, either on the rear of the Mach 5/5+, or on a tabletop.

The kit also includes split tubing material to dress the footswitch cable, remote cable, and air/abrasive tubing for each operatory. A footswitch adapter/extender is provided to extend the standard 12 ft. footswitch cable provided with your original Mach 5/5+ an additional 8 ft, to reach the full separation capability of the Multi-Operatory Accessory. To order the Optional Accessory Kit, order part number 140041. To order individual components, order by part Number.

Description	Part No.
Interconnect tube assembly, 42 inch (1)	170192
Right angle footswitch adapter/extender, 8 ft (1)	180083
Self adhesive bumpers (4)	480082
Rear-mount bracket (1)	210224
Allen wrench (1)	460031
Split tubing, 15 ft (2)	460032

Pneumatic Footswitch

Kreativ footswitches supplied with all products are electrically operated devices. To interface with pneumatic footswitches, an optional pneumatic footswitch adapter kit can be ordered, with included 20 foot cable. The adapter kit includes a pneumatic footswitch assembly and a pneumatic footswitch tube integration assembly. One kit is required for each operatory.

Description	Part No.
Pneumatic footswitch adapter kit	140045

MicroDentistry Products

Please call your nearest Welch Allyn / Kreativ sales representative for further information on the above accessory kit or customer replaceable components, in addition to a complete selection of our superior MicroDentistry products.

Chapter

7

6. Returns, Adjustments and Limited Warranty

Returns and Adjustments

Warranty claims must be made promptly and received by your nearest authorized Welch Allyn / Kreativ service representative during the warranty period. The liability of Kreativ Inc., under valid warranty claims, is limited to repair or replacement at the purchaser's authorized Service Center or the purchaser's place of business, at the option of the authorized service representative. If it is necessary to return a product for repair or replacement, authorization for the return must first be obtained from the authorized service representative.

All products returned for examination or warranty repair must be sent insured via a means of transportation specified by the authorized service representative.

Kreativ, Inc., or its authorized service representative claims the sole responsibility for determining the cause of any instrument failure and the adjustments are subject to Kreativ, Inc approval.

.

Multi-Operatory Accessory Limited Warranty

Kreativ Inc. warrants the equipment to be free from defects in material and workmanship for a period of 12 months from the date of shipment. Damage due to failure of customer to perform required user/preventive maintenance is not warranteed. Certain components having limited life expectancy (pinch tubes, air/abrasive tubing, handpieces and handpiece tips) are not warranteed against normal wear and tear or customer damage. This limited warranty applies only to the original purchaser / user of the equipment.

The foregoing limited warranty is exclusive and in lieu of all other warranties, whether written, oral, or implied, and shall be purchaser's sole remedy and Kreativ's sole liability under contract or warranty or otherwise for the product.

Kreativ, Inc., disclaims any implied warranty of merchantability or fitness for particular purposes. In no event shall Kreativ, Inc. be liable for any incidental or consequential damages, or for any incidental or consequential damages arising out of, or in connection with, the use or performance of the product delivered hereunder.

Storage And Shipment

The Kreativ Model Multi-Operatory Accessory has been designed for long term usage in normal dental office environments. If it is to be stored for any reason for a long period, it should be covered to protect it from adverse conditions. The area it is to be stored in should meet the requirements indicated in the Specifications in Chapter 1.

The unit has been designed for shipment by normal commercial carriers. Protective packaging should be used, and the original packing materials should be reinstalled for shipment.

Shipping instructions from Kreativ, Inc., must be followed closely. Kreativ will not be responsible for damage resulting from improper packing.